

Effects of Temperature on Juvenile Steelhead

Temp °C	Effect	Reference
13	Upper limit of optimum range Smolting inhibited <ul style="list-style-type: none"> - decrease in gill ATPase - adaptation to seawater impaired - ability to outmigrate reduced, fish stay in freshwater 	Bell 1986 Zaugg et al. 1972 Zaugg & Wagner 1973 Zaugg 1981, Hoar 1988 Adams et al. 1973, 1975 Wedemeyer et al. 1980 McCullough 1999
15		
17	Disease starts to be a concern <ul style="list-style-type: none"> - <i>Aeromonas liquefaciens</i> - <i>A. salmonicida</i> - <i>Flexibacter columnaris</i> 	Fryer & Pilcher 1974 Fryer et al. 1976 Holt et al. 1975
19	Growth rate declines	Myrick & Cech 2001 (Rainbow trout)
21	Predation, optimum range for: <ul style="list-style-type: none"> - northern pikeminnow - walleye - smallmouth bass - channel catfish 	Vigg & Burley 1991 Vigg et al. 1991 Brown & Moyle 1981 Koenst & Smith 1976 Bell 1986
23	Disease more of a concern Upper limit of the lethal range	(same as above) Bell 1986
25	Chronic lethal level, which depends on acclimation temp	Myrick & Cech 2001
27	High mortality after 24 hrs of exposure	Coutant 1969 (Rainbow trout)
29	Only short exposures possible Loss of equilibrium Death	Myrick & Cech 2001 Myrick & Cech 2000 (Rainbow trout)